What is claimed:

1. A method for performing automatic pacing interval optimization for each of a plurality of different body positions, comprising:

(a) monitoring a patient's body position;

(b) for each of the plurality of different body positions, pacing the patient's heart using a plurality of different pacing intervals and measuring a corresponding hemodynamic response for each interval;

(c) storing information that correlates the body positions, pacing intervals and measures of hemodynamic response; and

(d) determining at least one preferred pacing interval, for each body position, based on the stored information;

wherein steps (a) through (d) are performed by an implantable device without human interaction.

2. The method of claim 1, wherein step (d) includes periodically updating at least one preferred pacing interval for each body position.

3. The method of claim 1, wherein step (d) includes updating at least one preferred pacing interval for at least one body position, at least once per day.

4. The method of claim 1, wherein each time new information is stored for one of the body positions in step (c), step (d) includes updating at least one preferred pacing interval for that body position.

5. The method of claim 1, wherein each time at least a predetermined amount of new information is stored for one of the body positions in step (c), step (d) includes updating at least one preferred pacing interval for that body position.

6. The method of claim 1, wherein step (c) includes storing a plurality of measures of hemodynamic response for each pacing interval.

7. The method of claim 6, wherein the plurality of measures of hemodynamic response for each pacing interval includes a most recently determined measure of hemodynamic response and one or more previously determined measure of hemodynamic response.

8. The method of claim 1, wherein for at least one of the body positions, the pacing using the plurality of different pacing intervals occurs over noncontiguous periods of time.

9. The method of claim 1, wherein the stored measures of hemodynamic response are relative measures.

10. The method of claim 1, further comprising determining whether significant motion is present, and not performing at least one of steps (b) and (c) when significant motion is present.

11. The method of claim 10, wherein the determining whether significant motion is present includes comparing sensor measurements to a threshold.

12. The method of claim 10, wherein the determining whether significant motion is present includes examining a signal, used to produce the measures of hemodynamic response, for signs of motion.

13. The method of claim 1, wherein the plurality of body positions include recumbent, sitting and standing.

14. An implantable system for performing automatic pacing interval optimization for each of a plurality of different body positions, comprising:

means for monitoring a patient's body position;

means for pacing the patient's heart using a plurality of different pacing intervals, for each of the plurality of different body positions;

means for measuring hemodynamic response as the patient's heart is paced using the plurality of different pacing intervals, for each of the plurality of different body positions;

means for storing information that correlates the body positions, pacing intervals and measures of hemodynamic response; and

means for determining at least one preferred pacing interval, for each body position, based on the stored information;

wherein each said means performs its function without human interaction.

15. The system of claim 14, wherein at least one preferred pacing interval for each body position is updated periodically.

16. The system of claim 14, wherein at least one preferred pacing interval for at least one body position, is updated at least once per day.

17. The system of claim 14, wherein each time new information is stored for one of the body positions, at least one preferred pacing interval for that body position is updated.

18. The system of claim 14, wherein each time at least a predetermined amount of new information is stored for one of the body positions, at least one preferred pacing interval for that body position is updated.

19. The system of claim 14, wherein a plurality of measures of hemodynamic response are stored for each pacing interval.

20. The system of claim 19, wherein the plurality of measures of hemodynamic response for each pacing interval includes a most recently determined measure of hemodynamic response and one or more previously determined measure of hemodynamic response.

21. The system of claim 14, wherein for at least one of the body positions, the information is obtained and stored over noncontiguous periods of time.

22. The system of claim 14, wherein the stored measures of hemodynamic response are relative measures.

23. The system of claim 14, further comprising:

means for determining whether significant motion is present;

wherein said means for measuring hemodynamic response does not measure hemodynamic response when significant motion is present.

24. The system of claim 14, further comprising:

means for determining whether significant motion is present;

wherein said means for storing information does not store information that correlates the body positions, pacing intervals and measures of hemodynamic response, when significant motion is present.

25. The system of claim 24, wherein said means for measuring hemodynamic response includes a sensor; and wherein said means for monitoring motion includes said sensor.

26. The system of claim 24, wherein said means for measuring hemodynamic response includes a sensor that produces a signal that is used to produce measures of hemodynamic response; and wherein said signal is also examined for signs of motion.

27. The system of claim 14, wherein the plurality of body positions include recumbent, sitting and standing.

28. A method for performing automatic pacing interval optimization for each of a plurality of levels of autonomic tone, comprising:

(a) monitoring a patient's autonomic tone;

(b) for each of the plurality of different levels of autonomic tone, pacing the patient's heart using a plurality of different pacing intervals and measuring a corresponding hemodynamic response for each interval;

(c) storing information that correlates the levels of autonomic tone, pacing intervals and measures of hemodynamic response; and

(d) determining at least one preferred pacing interval, for each level of autonomic tone, based on the stored information;

wherein steps (a) through (d) are performed by an implantable device without human interaction.

29. The method of claim 28, wherein step (d) includes periodically updating at least one preferred pacing interval for each level of autonomic tone.

30. The method of claim 28, wherein step (d) includes updating at least one preferred pacing interval for at least one level of autonomic tone, at least once per day.

31. The method of claim 28, wherein each time new information is stored for one of the levels of autonomic tone in step (c), step (d) includes updating at least one preferred pacing interval for that level of autonomic tone.

32. The method of claim 28, wherein each time at least a predetermined amount of new information is stored for one of the levels of autonomic tone in step (c), step (d) includes updating at least one preferred pacing interval for that level of autonomic tone.

33. The method of claim 28, wherein step (c) includes storing a plurality of measures of hemodynamic response for each pacing interval.

34. The method of claim 33, wherein the plurality of measures of hemodynamic response for each pacing interval includes a most recently determined measure of hemodynamic response and one or more previously determined measure of hemodynamic response.

35. The method of claim 28, wherein for at least one of the levels of autonomic tone, the pacing using the plurality of different pacing intervals occurs over noncontiguous periods of time.

36. The method of claim 28, wherein the stored measures of hemodynamic response are relative measures.

37. The method of claim 28, further comprising determining whether significant motion is present, and not performing at least one of steps (b) and (c) when significant motion is present.

38. The method of claim 37, wherein the determining whether significant motion is present includes comparing sensor measurements to a threshold.

39. The method of claim 37, wherein the determining whether significant motion is present includes examining a signal, used to produce the measures of hemodynamic response, for signs of motion.

40. The method of claim 38, wherein the plurality of levels of autonomic tone include extremely sympathetic, predominantly sympathetic, neutral, predominately parasympathetic and extremely parasympathetic.

41. An implantable system for performing automatic pacing interval optimization for each of a plurality of different levels of autonomic tone, comprising:

means for monitoring a patient's autonomic tone;

means for pacing the patient's heart using a plurality of different pacing intervals, for each of the plurality of different levels of autonomic tone;

means for measuring hemodynamic response as the patient's heart is paced using the plurality of different pacing intervals, for each of the plurality of different levels of autonomic tone;

means for storing information that correlates the levels of autonomic tone, pacing intervals and measures of hemodynamic response; and

means for determining at least one preferred pacing interval, for each level of autonomic tone, based on the stored information;

wherein each said means performs its function without human interaction.

42. The system of claim 41, wherein at least one preferred pacing interval for each level of autonomic tone is updated periodically.

43. The system of claim 41, wherein at least one preferred pacing interval for at least one level of autonomic tone, is updated at least once per day.

44. The system of claim 41, wherein each time new information is stored for one of the levels of autonomic tone, at least one preferred pacing interval for that level of autonomic tone is updated.

45. The system of claim 41, wherein each time at least a predetermined amount of new information is stored for one of the levels of autonomic tone, at least one preferred pacing interval for that level of autonomic tone is updated.

46. The system of claim 41, wherein a plurality of measures of hemodynamic response are stored for each pacing interval.

47. The system of claim 46, wherein the plurality of measures of hemodynamic response for each pacing interval includes a most recently determined measure of hemodynamic response and one or more previously determined measure of hemodynamic response.

48. The system of claim 41, wherein for at least one of the levels of autonomic tone, the information is obtained and stored over noncontiguous periods of time.

49. The system of claim 41, wherein the stored measures of hemodynamic response are relative measures.

50. The system of claim 41, further comprising:

means for determining whether significant motion is present;

wherein said means for measuring homodynamic response does not measure hemodynamic response when significant motion is present.

51. The system of claim 41, further comprising:

means for determining whether significant motion is present;

wherein said means for storing information does not store information that correlates the levels of autonomic tone, pacing intervals and measures of hemodynamic response, when significant motion is present.

52. The system of claim 51, wherein said means for measuring hemodynamic response includes a sensor; and wherein said means for monitoring motion includes said sensor.

53. The system of claim 51, wherein said means for measuring hemodynamic response includes a sensor that produces a signal that is used to produce measures of hemodynamic response; and wherein said signal is also examined for signs of motion.

54. The system of claim 41, wherein the plurality of levels of autonomic tone include extremely sympathetic, predominantly sympathetic, neutral, predominately parasympathetic and extremely parasympathetic.

55. A method for performing automatic pacing interval optimization for each of a plurality of different body temperature ranges, comprising:

(a) monitoring a patient's body temperature;

(b) for each of the plurality of different body temperature ranges, pacing the patient's heart using a plurality of different pacing intervals and measuring a corresponding hemodynamic response for each interval;

(c) storing information that correlates the body temperature ranges, pacing intervals and measures of hemodynamic response; and

(d) determining at least one preferred pacing interval, for each body temperature range, based on the stored information;

wherein steps (a) through (d) are performed by an implantable device without human interaction.

56. The method of claim 55, wherein step (d) includes periodically updating at least one preferred pacing interval for each body temperature range.

57. The method of claim 55, wherein step (d) includes updating at least one preferred pacing interval for at least one body temperature range, at least once per day.

58. The method of claim 55, wherein each time new information is stored for one of the body temperature ranges in step (c), step (d) includes updating at least one preferred pacing interval for that body temperature range.

59. The method of claim 55, wherein each time at least a predetermined amount of new information is stored for one of the body temperature ranges in step (c), step (d) includes updating at least one preferred pacing interval for that body temperature range.

60. The method of claim 55, wherein step (c) includes storing a plurality of measures of hemodynamic response for each pacing interval.

61. The method of claim 60, wherein the plurality of measures of hemodynamic response for each pacing interval includes a most recently determined measure of hemodynamic response and one or more previously determined measure of hemodynamic response.

62. The method of claim 55, wherein for at least one of the body temperature ranges, the pacing using the plurality of different pacing intervals occurs over noncontiguous periods of time.

63. The method of claim 55, wherein the stored measures of hemodynamic response are relative measures.

64. The method of claim 55, further comprising determining whether significant motion is present, and not performing at least at least one of steps (b) and (c) when significant motion is present.

65. The method of claim 64, wherein the determining whether significant motion is present includes comparing sensor measurements to a threshold.

66. The method of claim 64, wherein the determining whether significant motion is present includes examining a signal, used to produce the measures of hemodynamic response, for signs of motion.

67. An implantable system for performing automatic pacing interval optimization for each of a plurality of different body temperature ranges, comprising:

means for monitoring a patient's body temperature;

means for pacing the patient's heart using a plurality of different pacing intervals, for each of the plurality of different body temperature ranges;

means for measuring hemodynamic response as the patient's heart is paced using the plurality of different pacing intervals, for each of the plurality of different body temperature ranges;

means for storing information that correlates the body temperature ranges, pacing intervals and measures of hemodynamic response; and

means for determining at least one preferred pacing interval, for each body temperature range, based on the stored information;

wherein each said means performs its function without human interaction.

68. The system of claim 67, wherein at least one preferred pacing interval for each body temperature range is updated periodically.

69. The system of claim 67, wherein at least one preferred pacing interval for at least body temperature range, is updated at least once per day.

70. The system of claim 67, wherein each time new information is stored for one of the body temperature ranges, at least one preferred pacing interval for that body temperature range is updated.

71. The system of claim 67, wherein each time at least a predetermined amount of new information is stored for one of the body temperature ranges, at least one preferred pacing interval for that body temperature range is updated.

72. The system of claim 67, wherein a plurality of measures of hemodynamic response are stored for each pacing interval.

73. The system of claim 72, wherein the plurality of measures of hemodynamic response for each pacing interval includes a most recently determined measure of hemodynamic response and one or more previously determined measure of hemodynamic response.

74. The system of claim 67, wherein for at least one of the body temperature ranges, the information is obtained and stored over noncontiguous periods of time.

75. The system of claim 67, wherein the stored measures of hemodynamic response are relative measures.

76. The system of claim 67, further comprising:

means for determining whether significant motion is present;

wherein said means for measuring hemodynamic response does not measure hemodynamic response when significant motion is present.

77. The system of claim 67, further comprising:

means for determining whether significant motion is present;

wherein said means for storing information does not store information that correlates the body temperature ranges, pacing intervals and measures of hemodynamic response, when significant motion is present.

78. The system of claim 77, wherein said means for measuring hemodynamic response includes a sensor; and wherein said means for monitoring motion includes said sensor.

79. The system of claim 77, wherein said means for measuring hemodynamic response includes a sensor that produces a signal that is used to produce measures of hemodynamic response; and wherein said signal is also examined for signs of motion.